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IN: 64727

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INFO

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PRIORITY  
IDEALIST

SUBJECT: J-75 ENGINE DISC INSPECTION

1. THE DESCRIPTION FROM THE FIELD OF A FAILURE OF J-75 ENGINE APPEARS TYPICAL OF A DISC FAILURE RESULTING FROM OVER-TEMPERATURE WITH RESULTANT FIRST STAGE BLADE SHINGLING AND SUBSEQUENT RIM SEPARATION

AT THE FIR TREE. SUSPECTED CAUSE FOR A SIMILAR FAILURE IN APRIL 1965 WAS ATTRIBUTED TO A INADVERTANT GROUND START IN EMERGENCY THROTTLE POSITION 40 HRS PRIOR TO FAILURE. THERE ARE NO RECORDED FAILURES ON COMMERCIAL OR F-106 DASH 17 ENGINES USING SAME P/N DISC AS ON DASH 13 ENGINES. THE DASH 19W ENGINE ON F-105 HAS AND CONTINUES TO HAVE FAILURES ON SAME P/N DISC. F-105 FAILURES ARE ATTRIBUTABLE TO HOT/HUNG STARTS ON OLDER LOW TORQUE CARTRIDGE STARTERS AND ON UP TRIMMED ENGINES RELATED TO COMBAT CONDITIONS.

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GROUP 1  
EXCLUDED FROM AUTOMATIC DOWNGRADING

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2. ALTHOUGH THIS TYPE FAILURE IS ASSOCIATED WITH A HOT/HUNG START THERE IS NO RECORD OF SUCH OCCURRING TO SUBJECT ENGINE FROM ART 384. WE BELIEVE THAT THE TWO CITED FAILURES OCCURRED ON P17 CONVERTED ENGINES ARE COINCIDENTAL.

3. UNTIL REPLACEMENT RUBINE DISCS ARE AVAILABLE RECOMMEND THAT IN THE INTERIM A TURBINE WHEEL DISK INSPECTION IAW T.O. -6-1 BE PERFORMED DURING EACH POSTFLIGHT. EVIDENCE OF ANY SHINGLING IS CAUSE FOR ENGINE REJECTION.

4. IN CLARIFICATION OF SUBJECT INPSECTION, REF T.O. -6-1, PAGE 4-7, PARA 5, DELETE THE WORDS "CHRISTMAS TREE PORTION". PRESCRIBED METHOD IS FOR INSPECTION OF SECOND AND THIRD STAGES. OVERTEMP OF 1ST STAGE TURBINE IS EVIDENCED ON 2ND AND 3RD STAGE. DISASSEMBLY OF ENGINE NECESSARY FOR INSPECTION OF FIRST STAGE. T.O. -6-1 WILL BE REVISED.

5. AN ALTERNATE METHOD OF ACCOMPLISHING INSPECTION IS BY ENTERING THE TAIL PIPE AFTER AREA IT HAS COOLED SUFFICIENTLY. A LOCALLY MANUFACTURED CONTOUR BOARD SHOULD BE PLACED IN TAIL PIPE TO PREVENT DAMAGE AND DISTRIBUTE WEIGHT.

6. ESTIMATE THAT FIVE REPLACEMENT DISCS WILL BE AVAILABLE IN JULY AND FIVE PER MONTH THEREAFTER. PRIORITY FOR DISC REPLACEMENT ON CONVERSION ENGINES WILL BE ESTABLISHED AS SOON AS POSSIBLE.

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